



FEDERAL SECURITY AGENCY
U. S. PUBLIC HEALTH SERVICE

IN REPLYING, ADDRESS THE

Tbc. Research Laboratory,
411 East 69th St., New York 21, N. Y.

October 7, 1949.

Dr. Joshua Lederberg,
Department of Genetics,
University of Wisconsin,
College of Agriculture,
Madison 6, Wisconsin.

Dear Josh:

It might interest you to know that the two prolineless mutants that you sent me are blocked at different places. We have on hand two prolineless Waksman strain mutants, one of which feeds the other. Your W-755 is a fed strain. SW-39 is not simply a prolineless mutant but in our medium requires niacinamide as well, and it excretes a proline precursor.

We have been unable to find any peculiarity in the response to penicillin. In a medium containing 0.2% casein hydrolysate, our wild type and the four prolineless strains are all inhibited by 25 to 50 units/ml. Between 0.1 and 1% of the colonies survive after 5 hours in 300 units/ml. of penicillin in this medium, and less than 10^{-5} survive after 24 hours. In minimal medium plus 50 γ /ml. of proline, we obtained practically the same results with our two prolineless mutants and your W-755. SW-39 was only moderately sterilized by penicillin in this medium, but this result is explained by further tests which show that it had a second growth requirement. In view of these results, I would suggest that it might be better to avoid mentioning in print any possible relationship of proline requirement to penicillin resistance until more work has been done on it.

Luria has sent me your comments on my suggestions. I agree with all of them, except that I feel it should be specifically stated that certain compounds are suggested only as possible growth factors, since their role in the metabolism of bacteria has not been shown. "Limiting" is a better word than either limited or marginal, I agree.

Enclosed is the material Luria has requested.

I hope we will be getting together in Chicago some time this fall. With best regards,

Sincerely,

(Bernie) Bernard D. Davis

Bernard D. Davis,
Senior Surgeon.

H.L.

BDD/h1